Information Exchange Workgroup
Draft Transcript
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Presentation

Judy Sparrow – Office of the National Coordinator – Executive Director
Good morning, everybody, and welcome to the Information Exchange Workgroup. This is public call, and there will be opportunity at the end of the call for the public to make comment. Let me do a quick roll call. Chair, Micky Tripathi?

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
David Lansky, Co-chair, he will be dialing in a little late. Judy Faulkner? Connie Delaney? Gayle Harrell? Michael Klag?

Mike Klag – Johns Hopkins Bloomberg School of Public Health – Dean
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Deven McGraw?

Deven McGraw – Center for Democracy & Technology – Director
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Latanya Sweeney? Charles Kennedy? Paul Egerman.

Paul Egerman – Software Entrepreneur
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Jim Golden? Dave Goetz? Jonah Frohlich?

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Steve Stack? George Hripcsak is joining in late. Seth Foldy? Jim Buehler? Walter Suarez?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Dave Ross? Hunt Blair?

Hunt Blair – OVHA – Deputy Director
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
George Oestreich? Donna Frescatore? Jess Kahn? Tim Andrews?

Tim Andrews
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Sid Thornton?

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Kory Mertz?

Kory Mertz – NCSL – Policy Associate
Here.

Judy Sparrow – Office of the National Coordinator – Executive Director
Did I leave anyone off, or is anyone else on the call? Okay. With that, I'll turn it over to Micky.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Good morning, everyone. Thank you for joining today's Information Exchange Workgroup meeting. Today we're going to get a status update from the provider directory taskforce, which is looking at the issue of provider directories that we've made some recommendations on regarding high level principles to the HIT Policy Committee at the last meeting, and we have sort of a set of stage recommendations looking forward over the next coming months related to directories. So we wanted to get a status update and as well as really have some ongoing discussion because, given the timeframes here, given that there's a lot of overlap between the taskforce and the workgroup, I think we can use this meeting both as a status update, but also really to further the conversation and to get some good discussion to keep us moving forward.

I'm going to just give a couple of high level introductory kind of thoughts, and then I'm going to turn it over to Walter Suarez and Jonah Frohlich, who are the co-chairs of the provider directory taskforce. This is what we want to go through, as I said. Let's first walk through the policy committee meeting and the consensus principles that we presented at the policy committee just to sort of ground ourselves in what we've already agreed to and what we've presented to the policy committee. Then we'll look quickly at the proposed framework for what we're calling our round one recommendations related to the entity directories, and then I will turn it right over to Walter and Jonah.

At the last policy committee meeting, hopefully all of these principles are familiar to you. But we presented this set of principles related to our provider directory deliberations. The first set that deals more with the question of what initial principles should apply generally to provider directories, and I won't go through these because I think all of you have seen these in various meetings, but happy to revisit or have discussion around any of the specific ones. But the first set are related to some initial principles that I think we all agreed would apply generally to provider directories, as we think about what the concept of provider directories is going forward, and with a recognition that there would be further principles, as we got deeper into it. But this was an initial set that seemed to make a lot of sense. Then second set were really more guiding principles for us, as a workgroup, in thinking about what principles ought to guide our recommendations with respect to provider directories. Again, unless anyone from the workgroup has any questions or any comments on this, I would suggest that we move forward since we've seen this many times. Great.

Actually, what I'd like to do is, Jonah, if you want to take over from here, maybe I can allow you to sort of present the framework. Then, between you and Walter, take the conversation forward.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary

We have worked under the following framework, and this is where the workgroup and how the workgroup has proceeded with its set of both essentially use cases and led to, beginning to lead to a set of recommendations. We broke it down into two components. One is really the environmental scan and the business analysis. What exists today? What are the specific uses? What are the business needs that the entity directory and the directory in general is trying to meet?

We start off with uses and users. Who specifically wants the directory? Who are those who are expected to be using it for information exchange? What specifically do they want to use it for, which leads to function? The functions are, what are the specific functions that the users need for their desired uses, which brings us to content? If we're asking the question as to what the entity directory is intended to do, we also need to answer the questions about what specific content is required to perform the specific functions and meet the needs of the users. We really need to get down to the level of what are the minimum necessary data elements, and what's the minimum necessary content that is needed in order to meet the functions that are desired for a directory.

We also need to answer the question about operating requirements. What are those business and operating requirements necessary in order for this to be used? How, for example, is the information within a directory intended and supposed to be maintained? How is it intended to be accurate? What are the minimum necessary requirements that any of the users of the entity directory must meet? Are a certain set of use agreements that need to be in place? Are there service level agreements that need to be in place? These are operating requirements that need to be considered for the type of directory services we're talking about.

Then, finally, and very importantly, the business model, how are these directories intended to be maintained and sustained in the long term? What are the specific business models that could allow for these registries, these directories to be maintained? Again, with environmental scanning of what exists today, we can look at both directory services that exist within healthcare and outside of healthcare to see what has worked and what potentially could be used as a business model to maintain entity directories for the purposes of health information exchange.

Together, all of those components from users and uses to the business model comprise the directory requirements and the options. From that we lead us to making a set of recommendations about the need for the directory services, and specifically two areas. One is around policy issues. One set of policy questions about the business model that potentially the government should promote and what are the specific policy levers that the government could use in order to promote those business models, looking for example at the HIE cooperative agreement program, the Medicaid EHR incentive programs, the Medicare EHR incentive programs, and others, and the ability to use the incentives and cooperative agreement programs and other potential policy areas that the government could promote and use in order to encourage the creation and maintenance of these directories. What are the specific policy issues related to each of the suggested business models? So if there are an array of potential business models, are there specific policy issues that could help sustain, maintain these directories for each of those different business models, or are we talking about one set of policy issues that apply to a whole variety of business models.

That leads specifically to policy actions. What policy actions should be taken to address the policy issues? What are we specifically recommending in terms of suggested actions that the federal government could take in sustaining, maintaining, encouraging the use of entity directories specifically to promote safe, secure, health information exchange. That is where this workgroup is really going to be focusing, has been focusing really on getting towards and making those policy recommendations in a way where we get consensus from the group, and we can make those recommendations to this workgroup and ultimately from here to the policy committee. Any question on the framework? Okay.

The proposed work plan, you've seen this before. Our schedule continues to be very, very tight and aggressive, and I really want to compliment the members of the taskforce for being incredibly engaged in this and thank Micky and Walter and Seth from ONC for their support in keeping us on task here.

We've had two taskforce meetings in the past week or so. In the last couple … framework and began to define the uses and users, defining some basic functions, as you'll see, and I think Walter will lead us through the specific uses and scenarios that essentially look like use cases for the directories, which are really important for us. They've been really important for us in making it very concrete what exactly we are talking about when we're describing entity directories because it helps us articulate not just what they are, but how they're intended to be used for, say, secure information exchange. Of course, today, being November 3rd, we're presenting this framework and the definition and uses, which we'll get to shortly.

We'll have two more taskforce meetings next week where we'll look at areas of a focus for business models and specific policy issues and actions. We'll discuss those and then intent to improve those by the end of next week, and then present those back here to the next workgroup meeting of the information exchange workgroup on the 15th, and then present those recommendations to the policy committee on November 19th.

In terms of the consensus direction of the entity directory, this has been well worn from the group, and we've had many hours of discussion on this, and I think we've really finally come to some consensus about the direction and specifically what it is we mean when we say entity directory and what specifically the functionality of that directory should focus on. First of all, there are four components to it. One is the supported directed exchange. When we say this, we mean both send and receive. It's not just push. But we're also talking about query and response or query and retrieve.

Obviously for stage one meaningful use, our recommendations are focused on send/receive, but we don't want to be restricted or constrained. Want to have an eye towards stage two and beyond where we expect more complex exchange patterns may be required. We anticipate they may be required, and they certainly would be if we want to really promote more ubiquitous and comprehensive information exchange. We don't want to limit the functions of the entity director to just send/receive. We want to make sure we address query response exchange patterns.

The second is to provide basic discoverability of an entity, and this basically means that a sender may have some information about where they want to send a message, but may not have all the information necessary to send it, so there needs to be some basic discoverability to insure that they can get the complete address of the entity. The third is that there's some basis discoverability about the information exchange capabilities, and what that means is that that the sender needs to know if the receiver can actually consume the message they're about to send, whether it's an HL-7 2.5.1 message or a CCD or whatever it happens to be, and the payload, whatever the structure of the payload, there needs to be some basic information about what can be consumed. Otherwise we're going to be sending potentially messages that are unreadable, indigestible to the recipient.

Finally, that the entity directory needs to provide some basic discoverability about the entity certificate. In exchange patterns, as we're describing here in the entity directory, we need both the send and receiver to be able to discover and essentially validate the certificate of each other in order for exchange to securely take place. That brings us to the three assumptions that we've been operating under, and then I'll make sure we answer any questions you may have.

The first is that the message center knows where the message needs to go, but may not have the complete address, and that speaks specifically to the need of having basic discoverability of the entity, to have an idea, to have some information, but it's not complete. The second is that messages can be sent over the Internet, securely, obviously using standard Internet protocols and addresses. The third is that the message security is based on PKI. Just for basic background information, PKI is a set of standards and protocols and policies. It's not a specific technology. But it connotes or at least it assumes that there things like a certificate authority or a registration authority that will be issuing digital certificates to senders and receivers. So it's not a specific instantiation of technology. It's a pattern, and it's a set of protocols, rules, and policies. At least I think I got that. For those who are more technically aware, you can correct me if I'm wrong, and please do. Any questions from the workgroup in terms of…?

Deven McGraw – Center for Democracy & Technology – Director

On that last point, do you need to assume that the security is PKI versus, I mean, because it seems like that's awfully specific, and the issue of, I mean, I think that's one of the issues that the tiger team is trying to take up, the notion of how you insure that the entity is who they say they are.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Right.

Deven McGraw – Center for Democracy & Technology – Director
I don't know that it's going to be PKI.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
We had this discussion, and for those on the phone who may be more technically savvy than I am potentially can answer this question more effectively. But I think what we're assuming here is that it does need to support sort of a PKI infrastructure. Specifically, PKI is, as I understand it, how most secure information is exchanged over the Internet. It, again, assumes that there's a certificate authority and a registrant authority that insures that there is uniformity and uniqueness to the entities that are registering. It assumes that there are a basic set of policies that allow for exchange. An example of this, I believe, VeriSign, an issuer of digital certificates that allow things like online banking transactions to having a registrant authority that allows and insures that there are not two Schwab's that are completely separate entities, for example, so there is uniformity, and there's … or ambiguity.

Deven McGraw – Center for Democracy & Technology – Director
Right. I'm straying into technical areas where I don't have expertise either, Jonah, but my recollection is that PKI is not a standard that's been officially adopted, not in the context that you just said, but in terms of like certification of EHR products for example.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Right.

Deven McGraw – Center for Democracy & Technology – Director
To the extent that the PKI assumption is important to your recommendations, I think that needs to be highlighted a bit more. If this is just a mention that we assume that this is going to be sent in a secure way, and we put PKI in there because that's commonly how things are done on the Internet, that's a different story.

Paul Egerman – Software Entrepreneur
The issue that Deven is raising is the exact same issue that I raised during our tiger team meeting. I think that you don't really need that as an assumption. To repeat what I said before, you look at the previous assumption where you simply say you're going to use standard Internet protocols. That sort of is all you really need to say at this stage. It's highly likely that PKI is what we're going to end up with, and PKI is a pretty broad thing. But since we're at the policy level, we should stay at a fairly high level, and simply saying standard Internet protocols is really all you need to say. It really covers it.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Tim?

Tim Andrews
Yes. I would say a little bit more. Just that the only reason that assumption was in there is because one of the functions that we listed as very useful from the entity directory perspective was the ability to get a digital certificate, which doesn't really make sense unless you're in a PKI world. So you cold say, Paul is correct, I think, in general. However, you have to be a little bit careful because you have to have some mechanism of doing security, and the directory will have to respond to whatever that is, and it may be different. If you say I'm going to use a VPN, then maybe there's nothing. Or if there's an exchange of encrypted piece, then there may be more complex mechanisms that have to be put in place in order to support that that a directory would have to have. So it could have impact on the directory's functionality, but at a second order level.

Paul Egerman – Software Entrepreneur
Right. But, Tim, once you say discovery and certificate, it's true that that sort of leaves you with almost no other conclusion than PKI. But it's still sort of like the right way to do things, which is to sort of define a high level policy.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I think what we're getting at is just right, which is trying to be very clear on why this is important for the entity directory. I think we could either leave it out or say something like to the extent of PKI-like mechanism is used, there will be a way to link the entity information to the certificate. I'm not sure it's necessary at this point. I frankly think it's several layers down probably from where we are right now, but if it is necessary, we could frame it in a sort of conditional way.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Maybe what we should do here is, taking Paul's suggestion and saying basic Internet protocols are being used. I think it would be very helpful for states to have a little bit more clarity and direction about specifically what that means. I don't know exactly how this is done here, but if we can forward this to the standards committee and ask them to very quickly come up with a technical recommendation about how, whether not as PKI, encrypted keys or something else so that as these procurements are happening, because they are beginning to happen in states, there can be consistency. I think it would be helpful because I do believe one of the recommendations we're sort of working towards is there does need to be some consistency if we want to work towards having some form of a federated, national, consistent model for entity directories.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
The only caution, thing we need to think through, and maybe this speaks to Deven and Paul's point, is there is an ongoing discussion in the privacy and security tiger team about recommendations for authentication.

Deven McGraw – Center for Democracy & Technology – Director
Yes.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
That I think are grappling with just these questions, so maybe what we can tee up is to say, by way the way, we have a pony in that race, and it's important for us to resolve how this occurs because that's going to have implications. I'm just a little reluctant to send that forward to standards when….

Deven McGraw – Center for Democracy & Technology – Director
And from a protocol perspective, workgroups don't send things directly to standards.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Right.

Paul Egerman – Software Entrepreneur
Yes, because it has to go to the policy committee first.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
Right, but I think it would be good to tee up to say it's important that we understand that outcome because it's going to have direct implications for how this is structured.

Paul Egerman – Software Entrepreneur
Yes. That's right, Claudia. To pick up on what Deven said, no matter what, the deliberations of this workgroup really have no impact. It only has impact once it's approved by the policy committee, which then sends stuff to the standards committee. But I think the thing to do is this is not a critical issue. In other words, it's sort of like, I mean Tim's comment is right that this thing is screaming PKI everywhere in terms of the way we're writing it. But even though that's the clear implication, I don't think we need to be

that specific in saying this because we're sort of tripping on something that's not important. The other issues are the important issues that are written there, the fundamental functionality and these basic assumptions.

The two assumptions are extremely important to understand. We're sort of saying there's already some knowledge of where you want to send the transaction. You may not be precise. You might think you want to send it to St. John Hospital, but the problem which St. John hospital because there are 200 of them. You've got to find which one that's sort of like an incomplete something or other. Then we're going to use standard Internet stuff. Those assumptions are good assumptions, and I think the functionality, those are the key issues that we need to address.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
I certainly don't want to break any protocol. I didn't know what protocol was, quite frankly.

Paul Egerman – Software Entrepreneur
Especially the day after an election because we'll pull you right out.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Yes. No comment. Moving on, key questions that we're looking specifically to answer in our deliberations and recommendations. First of all, which scenarios would use an entity level directory lookup? Those are essentially the use cases that I think Walter is going to help walk us through. We spent a lot of time working on those the last couple of weeks. And how important are each of these scenarios? Should any of them be highlighted, called out specifically that might be critical and that we need to focus more of our attention on?

In terms of content, what specific content is needed to make such lookup functions valuable? What are necessary? Are there minimum content requirements? Are there other content requirements that would make the entity directory more valuable for some reason? What are the basic operating requirements and business models? How would such content be provided and maintained? What is, for example, what is the requirement that any entity are needed, some basic level requirements that they need to insure that their information is accurate, up to date, current?

Specifically, policy questions: What are the policy actions that are needed to do all this? What are we recommending that the policy, that the workgroup and the policy committee suggests is needed in order to create consistency, to encourage specific business models, to sustain these entity directories? And do we envision any scenarios that justify the policy actions and recommendations?

Any questions before we move on to the scenarios? Great. Walter, are you okay taking over from here?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes. That would be fine, Jonah. You've done a great job laying out the background, and I think one of the most immediate next steps we wanted to take, basically starting from a previous slide where we wanted to figure out what are the scenarios, concretely, down to the examples of in real situations how would this entity level directory work, and what would it fulfill, and what would be the value?

We started to identify a series of examples, and we were calling it scenarios, but try to describe situations in which there's exchanges of patient information and exchange between providers and between different organizations and types of organizations. We started with one of our principles with scenarios that would help fulfill the stage one meaningful use directed exchange, and those are the ones that are listed in this slide. I'm not going to go into the details of the scenarios in this particular slide or the next slide. We have actually a series of tables that we wanted to present and then walk with you through each of the scenarios and then the value that the entity level directory provides.

But this slide just highlights the three examples of where directed exchange stage one meaningful use activities will be supported. So scenario one talks about a clinician that is ordering a test from a lab, and

the lab is sending the results back. The second scenario, and again, I'm not going to walk you through those right now. We'll talk more into the next slide.

Scenario two is a patient summary is being sent from a primary care provider to a specialist, and then scenario three is a hospital exchange with a clinic where the hospital is sending what we've been calling a discharge summary, which in clinical settings might be a little bit confused, but it's really because physicians and hospitals actually create a discharge summary with notations, and it's a little bit different from the message that hospitals would send after a patient is discharged, a CDA type message with a summary of the activities that happen. We're going to probably use a different term. Right now we've been using hospital discharge summary, but the intent is really, the concept is really the same. It's really trying to highlight the exchange between a hospital and a clinic of a summary of what happened during a hospitalization or a visit to the emergency department or an operating report, a summary of the surgical procedures performed in a hospital, and that data being sent then to the clinic where the patient's EHR is and the primary care provider is.

The next slide highlights a few other scenarios, now strictly directly related to stage one meaningful use, but I think also very important examples of how entity level directories would support this. Again, we'll talk in more details about each of these in the next few slides, but the first scenario in this slide is the hospital requesting information from a hospital; one hospital requesting information from another hospital, also, a patient request for a site of referral, basically a primary care provider and a patient looking for a specialist in some other setting. Also, a public health scenario, a scenario in which public health will be receiving or looking for information about a patient and the use of an entity level directory in that situation, and then a final scenario of exchanges between health information organizations, and so we'll talk a little more about those.

The next slide, I think we started talking about what would be the content, and this is a second part of the four or five things that we will have to do with respect to entity level directories, and the recommendations, all of them part of the framework that Micky and Jonah talk about. But here we're getting into some examples of the kind of content that the entity level directory would probably need, and these are some of the options. We actually heard from at least one organization that supports health information exchanges, regional health information exchanges in various parts of the country, and the kind of data that they actually use and maintain in these directories, which in many respects is similar to the one, several options that we're providing here. So some of the options include the familiar names of the organizations, the entity, the relevant domains, other information really needed to match the entity with a specific domain. Basically sort of demographic kind of information that helps identify the entity, that's one kind of information.

The second type of information is information about the information exchange capabilities. You see there a bullet that says integration capabilities. We really mean their information exchange capabilities. Basically the directory will provide information to the entity that is taking information about a recipient about the recipient's ability to receive certain data or receive data in certain formats, in certain support for certain specific protocols and things like that. So that's what we mean by here integration capabilities, what we really refer to as information exchange capabilities. That's the second type of information that we think that a provider directory will have.

Then the third type of information is really the security credentials information and certificate information. More to point to where the security credentials can be verified and authenticated, but not to provide the authentication itself. It's just mainly the information about where to look for the security credentials authentication process, but not deliver or not support the actual authentication itself. So those are the three groups of information that we see will be expected to be contained in this entity level directory. Again, some demographic information, some information about the information exchange capabilities and support for protocols and things like that, and then information about the security credentials.

The content requirement would be then a tie back to the uses and functions that we will be highlighting and talking about more in detail, as we look at how the entity level directory supports the various scenarios. Then the directories with more static content are certainly going to be easier to maintain, and

this is a point that is important for purposes of the maintenance and the reliability, if you will, of the data itself, so we want to make sure that the content requirements are established in a way that really limits the need to provide constant and periodic updates to the directory, but rather point to where the information for specific new information might be available. Then for content elements that require frequent updates, provide really that kind of pointer for that. That's what we are thinking about in terms of the content of these directories. Any questions or reactions or comments to this part?

Paul Egerman – Software Entrepreneur
My reaction is I think this is really very good. I have a few little like wordsmithing things that I might suggestion to you offline, Walter, but my main comment is I think is not only very good, I think this is actually pretty close to complete. This is what we have to do, people talked about standards, but this is, to me, the kind of high level decisions we should be making. If it's approved by the policy committee, then we hand it to the standards committee, and they're going to have to figure out the details. In other words, we don't really have to work out details on any of this content beyond this sort of high level view. I think this is nearly a complete recommendation for this.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Great. Yes, indeed. I think, just as I was explaining the slide, organizing the content into this categorical element.

Paul Egerman – Software Entrepreneur
Yes, that's the wordsmithing I was going to suggest. I have a few minor things I want to tinker with to run by you, but this is, to me, getting to be very, very close.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Great. Yes.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
I just wanted to pause here for a second because I think Paul is raising kind of an important threshold kind of issue or question for us as a workgroup, which is really about how much depth do we think the recommendation, our recommendations need to be? What Paul is saying is that he thinks that this is kind of as deep as we need to go in terms of recommendations, and I would just love to hear from other members of the workgroup on their perspective on that.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Micky, I'll jump in because I actually am a member of the standards committee, and a member of the security and privacy workgroup of the standards committee who would probably be the one receiving this, and turning my perspective then, I think this is the level that the standards committee would expect to see recommendations from the policy committee, and including some of the examples, but not specifically, most illustrative examples rather than this is the standard that we are expecting you to come up with. My sense from that perspective is, yes, I totally agree with Paul that the level of policy recommendations, I would see speaking from the perspective of the standards committee, come from the policy committee.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
I was thinking about a conversation I had with Jonah the other day about, let's say one implementation option might be that different states or even different regions are standing things like this up, and there's a desire to create kind of a way to federate across those or share across those. I think that particular option suggests that certain data elements might need to be highly standardized, and/or there might need to be a way in a standard way to query across them. I think that points to two potential additional things we might want to think about, which is, which of these data elements need to be absolutely in stone or required for sort of interoperability across entity directories versus which can be loser. Second, are there a set of requests we'd make of the standards committee regarding how to create something that's federated and how to query across them?

Paul Egerman – Software Entrepreneur

Yes. Claudia, those are good questions, but the reason why I'm saying this is adequate for content, I'm saying this is adequate from a policy standpoint for content, but there are other policy issues that we have to address. One of the issues that I might propose is, well, I'd like to see the standards, say, have a nationwide entity level directory that everybody uses exactly the same directory. That would be, maybe I'll put that like as a straw man response, but that's the kind of issue then that we have to discuss.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, this is the way I see it. This is … the way I see it. This is one of the – content is one of the four or five policy level recommendations. As Paul said, another one would be models, and another one would be entities.

Paul Egerman – Software Entrepreneur
What I'm suggesting is, again, if you think about that arrow thing that Micky showed earlier for the content box, we need to wordsmith this a little bit. But I think this is close to an answer to the content box. Then we can start to move on to some of these issues that you're talking about, Claudia.

Claudia Williams – ONC – Acting Director, Office State & Community Programs
That sounds good.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Yes, that's a great clarification, Paul. Thank you.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Any other comments on this slide? Okay. Let's dive into the scenarios. The next slide just shows the first scenario. What we do in this scenario is we describe, in as much detail as possible, sort of the sequence of steps perhaps, to put it one way, of things that would happen. Then in the other side of the box, we explain the value that the entity level directory will provide to support that exchange. In the clinical order, the clinician orders tests from the lab, and the lab sends the result. You can see the steps very quickly, the clinic sends the lab order to the lab. So in reality, the EHR of the clinic X generates an order, a lab order message and sends it to the lab, the lab information system.

This is the information software that the lab has received the lab order. Then the lab processes the sample, generates the lab results, and then the message with the lab result is produced and sent back to the ordering clinician. So using the directory, the digital credentials of both the sending and receiving computers are used to validate the identifiers, and then prior to sending the transaction, they're sending computer check information exchange services that are supported by the receiving entity. These two messages you'll see consistent across all the scenarios. In fact, I think I moved them into the other box and forgot to delete them from this box, but they are really part of the value that the entity level directory and then the condition of the entity level directory will support.

Anyway, that's the description of the scenario, a simple sort of process of sending a lab order and receiving back the orders. The value of the entity level, well, I think it's been mentioned several times in previous discussions that with respect to clinic and laboratory exchanges, usually the exchange between the clinic and the lab is very well known and pre-established. Basically the labs and the clinic have established connections, and there's a whole host of controls around what a lab can be sent, a patient can be sent to and those kinds of things, even though there's some flexibility certainly on which location of which lab a patient can go to and things like that. But usually those exchanges are pretty well defined.

But still, the clinic X will be expected to use the entity level directory to obtain the organization level address … of the lab, and then other information exchange features supported by the lab, the … information, example that the lab supports in order to make the connection between the provider or the clinic and the lab to draw up the message. The format that is supported and the security certificate location, this kind of other information exchange elements, which then will allow the clinic X to establish that connection, sort of open the defined port, and draw up the message to the lab.

The entity level directory provides, in this case, two specific benefits. The first one is establishing a first time connection with the lab, the first time that that path is created. Then afterwards, to insure that any changes in the address of the lab, if the lab, for example, experienced some—is being purchased by someone else or changed names or things like that. It will be, the entity level directory will help to resolve those. The labs will then send back the results to the clinic X using the clear address included in the lab order, so it sort of replies to it. The lab may also use the entity level directory to support a copy to function in order to send the results to a provider that is not the ordering provider in some cases. That's a feature or an expected functionality. Those are the ways in which an entity level directory will support a clinic order test from a lab and the lab sending the results. Let me stop there and see if there are any reactions to either the scenario or the value or the value that is described. Okay.

Let's move to the next slide and talk about a couple more scenarios. Again, you'll see a couple of common themes across the value that we see the entity level directory provide, but we wanted to just articulate those within the context of each of these scenarios. The second scenario is a provider, primary care provider is sending a summary of a patient history to a specialist for a referral. In this case, the clinic, the primary care provider from clinic X is sending that summary to a specialist in clinic Y, so in reality, the clinic X EHR sends a patient summary, for example, a CCD or a CCD format to clinic Y's EHR. Then the clinic Y EHR receives that summary incorporates the data into the appropriate patient record in the EHR, and the … EHR, the clinic Y EHR could have also sort of a mechanism to alert, to generate an alert to the specialist that new information about a patient is now available for the specialist to look even before the patient is going to come to the encounter, if that's the case.

In this case, the value of the entity directory, the clinic X will use the entity level directory to identify, again, the organization level address of clinic Y and to receive additional information exchange information, features supported by clinic Y's system, what formats they support to know whether it's a CCR, CCD, or CDA document being send, which version of that is supported, etc., and then also the security certificate location. It's important to know and the expectation is that in the message header or inside the message itself is where the information about the patient, number one, and the specialist, the provider, number two, is going to reside, which then will be used by the EHR of clinic Y of the recipient clinic to pull the data from the message and put it in the right, of course, electronic record of that patient, and then issue the alert to the appropriate provider.

Again, as I've mentioned before, the directory will also allow clinic X to or both, actually, clinics to declare the digital credentials and be able to validate those identities or look for where the validation and authentication of the credentials can be pulled out. Then prior to sending the transaction, the sending computer will be able to check the information exchange services that are supported by the receiving computer. That's how we envision really the entity level directory supporting this second scenario. Let me stop there and see if there are any comments on the scenario or the value. Okay. You guys are too easy on me today.

Mike Klag – Johns Hopkins Bloomberg School of Public Health – Dean
I wouldn't complete.

Deven McGraw – Center for Democracy & Technology – Director
Yes, you're being complete, Walter.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
All right. Let's go to the third scenario. The third scenario is this scenario where, actually, in the previous slide. We're still on that same slide. Thanks. The bottom of this slide, hospital discharge summary, as we call it, or the hospital summary of hospitalization or an emergency department visit or operating report, surgical report, is being sent from the hospital to the primary care clinic or the clinic where the patient's EHR record exists and where the primary care provider practices. Again, in this scenario, the hospital is being sent from the hospital information system, the EHR of the hospital, to the clinic EHR where the patient's record resides and the primary care provider practices. The clinic EHR system receives then the discharge summary. As in the previous example, incorporates the data, pulls out the data from that EHR summary into the patient's record in the EHR. As with the previous example, so the clinic EHR could

have that feature of alerting the primary care provider that new information about patient X is available regarding this hospital event, whatever that was, whether it was an ED visit or discharge.

Just like with the previous example in terms of the value the entity level directory provides, the hospital will be then able to use that directory to locate the address of the clinic that needs to receive the data, and also again other information exchange information features supported by the clinic EHR system: the format, the security locations. Just like with the previous one, the message header or in the message header or inside the message where the information about the patient and the provider will reside. Are there any questions on that one? All right.

Let's go to the next slide with the next set of scenarios. This one is a scenario where a hospital is requesting information from another hospital. One hospital is requesting information from another hospital. The patient is outside their geographic home, so the patient lives in Boston, is visiting Florida, and there is an emergency or a need for an acute care hospital situation. Then the hospital in Florida, hospital X will need to seek additional information about the patient prior to treatment. The patient knows sort of the general name of where the information is at the hospital in their home, so this is hospital Y in Boston in this example. So hospital X in Florida will need to look up for the complete address for the hospital in Boston, hospital Y. Then once it finds it, hospital X will send a request for patient information to hospital Y, and then hospital Y sends back the summary of that information in a particular format, CCD in this example.

Again, with the value of the entity level directory level is that hospital X would then be able to use that entity level directory to search for the organization level address of hospital Y. Actually, yes, there's where hospital X in Florida will look for the address for hospital Y in Boston to be able to send a query for additional patient information. Then hospital Y will use the entity level directory to discover the location and certificate of hospital X to validate and confirm that it is a hospital that is going to be able to access or receive patient information. Hospital Y then will send a CCD to the known address now of that hospital X in response to the hospital X query.

Again, in this case, the actual patient information, patient identification, and the provider information especially, if it's needed, will reside actually inside the message header or the message itself. In this case as well, the other two conditions are met: the directory will provide the digital certificate locations for validation, and the information exchange services that are supported by each of the respective entities. Any questions or reactions to that example? Okay.

One more is at the bottom of this slide. A patient is looking for a specialist for a consult or a diagnostic test, so the primary care provider is working with the patient and wants to refer the patient to a specialist or a diagnostic testing facility, and so then the primary care provider or the patient in this case could search the directory for a specialist or the diagnostic test center that they're looking for. And the patient is able to chose the one among the ones that are available that is more convenient to them. And the PCP, the primary care provider will then send the clinical information in the defined format, in this case a CCD, to the entity that will be then seeing the patient.

The value of the entity level directory in this case is that the directory will be used to make sure that the receiving organization is going to be able to receive a CCD and that the CCD is going to be sent to the correct organization within the multiple options in terms of referral facilities or diagnostic test centers. The header in the message, again, will contain the information about the patient and the specialist. And we made a point here. It is not necessary for this directory to describe the services that are provided because that information is going to be available through other sources, and we'll talk about in the next phase of our work on the individual leve directories that might carry some of that information in terms of what services are offered and where they are being offered by a particular specialist.

In this case, the primary purpose of the entity level directories is primarily for routing the message and for determining the message format that the entity will support, the receiving entity will support. Any comments or questions about this scenario?

M
… here is in this context says clinical services, correct?

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Clinical services, yes.

M
You might just want to specify that.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
One clarification in the message header, I think we may want to be very explicit that there would not be patient specific information. That wouldn't necessarily be secure.

Sid Thornton – Intermountain Healthcare – Senior Medical Informaticist
I also think, in the patient scenario, we ought to clarify whether or not payer specific affiliation is excluded or included because I think that the scenario for the patient request will be highly tied to the payer specific, and I think that was out of scope. Anyway, that's just a quick comment.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes. I think that will be a valuable point to add in terms of a clarifying point inside that box of the value of the entity level directory.

Paul Egerman – Software Entrepreneur
Yes. I think the last two comments are very good. However, they're really not comments about the directories themselves. It's more comments about the content of the message, and I think that we have other groups addressing some of those things to make sure that patient identity information is not needlessly exposed and that the content of the message sort of has the minimum amount of content … necessary to do the job.

Deven McGraw – Center for Democracy & Technology – Director
Yes. Agreed.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Okay. All right. Let's move to the next slide with the last couple of scenarios. The first one here is public health scenario. Again, even though this was or is not necessarily a specific scenario supporting any particular stage one meaningful use directed exchange, it provides us with an opportunity to show how the entity level directory will support other exchanges as well. The public health scenario is basically a public health agency requesting data from a provider, so a public health agency needs to obtain additional information about a patient from a provider, clinic, or hospital in support of a public health function, whether it's a notifiable disease or follow up on a particular situation, syndromic surveillance, or any other of the public health functions.

The public health seeks then the provider, sends a query with the requested information or the request for information on a patient, and then the provider receives the query, processes it, and submits back the data to the public health agency. In this case, the public health agency will use the entity level directory to identify and locate the appropriate address of the clinic or hospital that they need to send a query to. The entity level directory, as mentioned in previous points, will provide other information exchange features or supported features by the clinic or the hospital, the formats supported to receive the query certificates, the secured certificate location. Then the public health agency will send a query to that clinic and, again, in this case, a message header or the content, the information about the patient will reside inside the message or in the message header, which will be then used by the hospital to find the appropriate patient and extract the data about that patient requested by the public health agency and put

the message back to the public health agency. Any comments on that or any suggestions about clarifications? All right.

Then we get to the last scenario. This was a scenario in which a health information organization, a health organization that is operating, let's say, a regional health information exchange is going to be routing information to another health information organization. A provider that is part of, say, a regional HIO X needs to send clinical information to a provider that is part of a different regional HIO. So, in this case, what we thought of the entity level directory would provide is the HIO X will use the entity level directory to search for the organization's address of the provider that is the recipient and that is a different HIO, in HIO Y. That way it's really a functionality that is taken advantage of by the HIO itself that will then allow the provider inside that HIO to send the message and be routed appropriately to the appropriate HIO and the appropriate entity inside that HIO as a recipient of that message.

That's a little bit of a simpler scenario involving two HIOs and certainly there are a few elements around, once you are inside an HIO, there is functionality provided, directory functionality that might be supported by the health information organization itself inside that particular regional exchange. But we're trying to highlight the exchanges between two HIOs and the routing need and the support that the entity level directory will provide for that routing. Any reactions or comments to this scenario or the value described? Okay. I think, again to sum up basically the scenarios, we were trying to do was to identify a number of real life situations, if you will, in which exchanges or information are happening and how the entity level directory will be needed to support those exchanges in a much more efficient way and kind of a nationwide information exchange scope rather than just a kind of proprietary way of doing it, if you will.

Let me see this. Go to the next slide, and I think this next slide just describes a few of the things that we will be looking at in terms of other elements related to the services that will be needed to be supported. These are some of the things that I think will be really open for discussion today here and further discussion within our workgroup to bring back as recommendations to the our taskforce to bring back to the recommendations to the full workgroup and then recommendations to the policy committee. The first point, I think, is clinical entities themselves define how they want to be represented and maintained, responsibility for the maintenance of that information. So the EHR certification requirement to create registration and post, edit, delete functionality with a directory that sort of questions do we look at how EHR certification requirements might help and support this need to provide that maintenance responsibility. Then the other question is, this could be an entity level or this could apply to both, actually, an entity and/or clinician level directory. But the question really is to what extent we think this should be also noted as part of an EHR certification requirement to support this creation of a registration and editing functionality with respect to entity level directories, as well as clinician ….

Paul Egerman – Software Entrepreneur
If I could make a comment, the certification issue is an important issue, but I'm not sure it goes with how clinical entities define themselves because the certification occurs with a software vendor usually, in other words, not with an individual clinical entity. In other words, I don't view the certification as a sub-bullet about how clinical entities define themselves.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, that's a very good point. I think the general question here was, in my mind, more about what kind of connections should there be between certification requirements for EHRs and support for a provider directory.

Paul Egerman – Software Entrepreneur
Yes, you've got that in your second bullet.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes.

Paul Egerman – Software Entrepreneur

And your second bullet, second bold thing. I'm n to sure if I'm describing it right. I think that that's correct. I think there's a missing question here that you need to have first, which is, which organizations can be listed in the entity directory. In other words, is it just organizations that have been certified? Does it include retail pharmacies? Does it include DME suppliers? Does it include claims clearinghouses? I think that that's an important question that we need to address.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Absolutely.

Paul Egerman – Software Entrepreneur
Does it include groups who have medical record systems that are not certified, for example? Can they be listed? I'm not asking that in a way to suggest an answer. I'm asking that in a way to say I think that those are somewhere in the range of questions that we need to have a picture as to who all is going to be in this directory.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Actually, I think so. That's absolutely correct. I think one of the most significant questions that we will be expected to provide insight, and recommendations is really who are the entities. Who are the users and uses of – users basically of this provider directory?

Paul Egerman – Software Entrepreneur
Yes.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
I think, just on your first point, I think the thought there, which is obviously for discussion, is the question of whether the EHR ought to have a function that allows a particular clinical entity to define itself using the EHR.

Paul Egerman – Software Entrepreneur
I see. I didn't understand it. If that's what it is, that's fine. I misunderstood what that is.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Yes, that's what that is. We can word it better.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
So we should add probably then another question, and again, that would be something that we would take on in the workgroup, I'm sorry, in the taskforce, take back to the taskforce and help define who are the users. Help also define this other question about EHR certification.

Paul Egerman – Software Entrepreneur
Although with Micky's clarification, I'm okay with what it says now. I misunderstood it.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Okay. Then the other element is this possible business model, and this we would need to get into, as I think it was mentioned in the framework, what are, at the end, the recommendations from a policy perspective is what kind of business models would we recommend the government to support, and what kind of levers they can use to pursue those models. What are some of the other policy issues related to each of these models? One of the questions is really about defining the standards to create a market driven services, what are the kind of areas where we should pursue this business model to focus on with respect to the standards that will support sort of market driven services?

The other point I think we made here is federation of government sponsored directories, so this is sort of how much is it a federated model versus a non-federated model, some sort of a hybrid or centralized or nationwide entity. Those kinds of questions are another set of questions I think we need to address. I think, in general, and maybe that's what we can focus on, Micky, if that's okay. We still have about 15

more minutes to go. Perhaps open up a little more this question around the model, the business models, and what kind of …?

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Yes, Walter. I think that makes a lot of sense.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
What kind of reactions members of the workgroup have about the various models.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Walter, just one time check. I think we should do ten minutes because we need to leave five minutes for the public comment at the end.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Okay. I'll keep watching my clock here.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Great. Thank you.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes. So with respect to the business models, again, the idea has been and, I think, has been said several times that there's a need to find a way to harmonize this process so we don't have 150 different situations that don't have consistency, and then to what extent a centralized nationwide type of approach certainly sponsored by, for example, the federal government, would be a way to go building sort of a new directory or building on some of the existing federal government directories that are fairly common and used by PECOS from CMS and perhaps even others. What kind of thoughts do people have with respect to the business models that we should consider?

Paul Egerman – Software Entrepreneur
The thought I have, which is a model that's sort of not quite here is to look at the way that the Internet is organized with URLs or name services where you have a concept of registrars. You have a concept of like what's called a who-is file, and you have a concept of DNS. The idea there would be that perhaps the statewide HIEs or HIO organizations could act as registrars, but this information should be registered. The directory would be registered on the Internet in such a way that you would have sort of like national access to all of the information and that it would also be, as a result, downloadable to local copies if people want to use that on their EHR systems. What I'm suggesting is a national approach that's not necessarily centralized though.

Jonah Frohlich – HIT at California HHS Agency – Deputy Secretary
Yes, I'd agree. I think that's potentially one fairly straightforward model that could be very effective for states, and they could potentially be one of many registrars within the state, or they could be, well, I'll just leave it at that.

Paul Egerman – Software Entrepreneur
Yes, because the issue is you've got an issue of registering for the directory. You've got an issue also that we're going to have eventually about who is going to be involved with making decisions as to who could get certificates. But you also have the statewide issues of licensing healthcare organizations. It just seems to me that a lot of those activities are interrelated, and so somehow having a lot of those activities occur at a state level, perhaps using these HIOs as a platform, could make sense.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Are there other reactions to people? Yes, it seems like that's one of the best ways to at least begin to describe a business model that seems one of the most reasonable to pursue, but are there any other thoughts of other possible ways or suggestions about any other alternatives? Or maybe put it, so the other side of the coin is, what are the kind of things we don't want to see be pursued because that might help also define and support the kind of business model that we recommend. I think we mentioned the

possibility of having a multiplicity of directories out there as being a challenge to harmonize and to support. Any other thoughts around that?

Paul Egerman – Software Entrepreneur
It seems to me, one of the things we don't want to do is create a situation where there's a multiplicity and healthcare entities have to register to be in more than one. So if you're in a healthcare organization, say like Hitchcock in New Hampshire, that does maybe half their business with citizens of Vermont and also of Massachusetts, the two neighboring states, you don't want them to have to try to keep their data up to date in three different directories because that would be a hassle, and there's probably examples, other examples of healthcare organizations in other states, Delaware or Rhode Island, where there might be four or five states involved. It would just seem that that would be a hassle to do.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Paul, just to clarify, you're not suggesting that HIOs be the exclusive registrars. They would just be one example. But to Jonah's point, you could have multiple registrars.

Paul Egerman – Software Entrepreneur
Well, maybe they're exclusive. I don't know the answer to that. I mean, there might be models. The question was what are the possible business models. Off the top of my head, I threw one out. They could be the exclusive. If you look at the NHIN and say, well, we're going to view the NHIN like an Internet model. We're going to make NHIN like an extension on an URL, so instead of .com, you can be .nhin. Then you could also define the HIOs as the exclusive registrars for that Internet extension. You'd set rules that would make the HIOs the exclusive registrars for that. But you would not be required to register with more than one of them. You would just register once.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
That was the next question I was going to ask the question of governance and how we might think about that and then what is the overlap with the governance workgroup.

James Golden – Minnesota Dept. of Health – Director of Health Policy Division
Yes. I think we need to think about what we mean when we say if they were the exclusive because I think, in some states, you are going to have multiple HIOs. So are we really saying that each of those HIOs would be a registrar, and that would be a responsibility, or is it in fact state government who is responsible for doing that within a state? I'm not quite sure how this might fit with a market driven approach in that I think some states might very well be interested in trying to have a market driven approach to HIOs, so they're not going to have an HIO, but will have multiple HIOs.

Paul Egerman – Software Entrepreneur
Again, speaking off the top of my head, you said HIOs could do it. You could potentially have more than one in a state. You could also potentially have a situation where you could use, as a registrar, any HIO you wanted in the country. So I could be in Boston, and I could say, well, that HIO in Tennessee does this for a cheaper price, and so I'm going to register with them.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, Jim ….

Paul Egerman – Software Entrepreneur
…valid registrar, and they register me with a national system, so that would be another – I'm just talking off the top of my head, but that would be another model. But the real issue is, what is the business model? In other words, do we want to a national system? Do you want a concept of registrars? Those would be the series of questions we've got to wrestle with. I'm saying this off the top of my head. Maybe it's not a good idea, for the reasons you just said.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Jim, in the case of Minnesota, the Mayo Clinic has sites in three different states, perhaps more, and so they could register with the registrar, whether it's an HIO or whoever else, in Arizona or in Florida, but

they wouldn't necessarily be expected to perhaps be or need to register with each of the three in the three states that they do business with, for example.

Hunt Blair – OVHA – Deputy Director
I think that this is a really great discussion, and it points to, first of all, the whole discussion that we'll get into in a subsequent call about sort of what the minimum standards are of all HIOs having the same data set, and it also points to the role of the state HIT coordinators, whether there's one HIE or HIO within a state or multiple of helping to play a policy coordination role in this. It's clearly bigger than we can resolve today, but I'll just put in my two cents for thinking that, based on all the testimony that we got at the hearing and my own experience in this, I think we're going to want to go to a multiple solution approach, a federated approach because I think that in a lot of cases states are going to be closer to the information and be able to handle this better than a single national solution would be able to resolve, and I'd point to the issues with the NPI duplication as a good example of the problem of a national approach.

Paul Egerman – Software Entrepreneur
I'm trying to understand what you're saying, Hunt. When you say states should handle it, are you saying that each state would have its own directory, or are you saying that each state would handle it, but you'd still have like a national database?

Hunt Blair – OVHA – Deputy Director
Paul, we're rapidly into the area where my own technological knowledge is so limited that I don't really know what I'm saying. But from a policy point of view, I think that each state, again whether it's the State, capital S, or the State, capital S, coordinating among multiple market solutions in a state, has a role to play in facilitating for the providers within its state. Smaller providers that aren't part of some big organization in particular is what I'm thinking about, their entry into this structure. But you're right, it may well be one big, massive, national structure that is fed through a federated structure. But again, I'd have to defer to people who really know what they're talking about, which I clearly don't in terms of the IT structure.

Paul Egerman – Software Entrepreneur
The picture I had of what you just said is you could have a national structure, and each state is like the turnstile.

Hunt Blair – OVHA – Deputy Director
Yes. Yes, that's kind of what I'm getting at. I just think that the fundamental thing is I think that a number of states are seeing a business opportunity for not just on the sort of, not that this is narrow, but for lack of a better phrase, that narrow exchange directory opportunity to also be aggregating provider directory information more broadly, like we talked about way back in the beginning of the taskforce meetings for public health needs, for all kinds of different directory needs. That's why I'm saying if we can link these things so that there is that turnstile function at the state level, I think that would be important.

James Golden – Minnesota Dept. of Health – Director of Health Policy Division
Can I ask just a question that maybe we don't have to answer today, but later? In thinking about states doing this, is there some thought that there would be some restriction on who could actually be in the directory so that states or someone else would have the responsibility to verify they there were somehow a licensed entity or a valid provider or participant? Or is the idea anyone can come and get an entry in the directory?

Paul Egerman – Software Entrepreneur
It's a great question. I think that's one issue we've got to address in terms of who can be in the directory.

Walter Suarez – Institute HIPAA/HIT Education & Research – Pres. & CEO
Yes, Jim. I think that is at the heart of the question that the workgroup will need to address next, and so I think that is a great way to actually set a stage for the next workgroup call, the taskforce call, I should say, not workgroup, the taskforce call itself, so I think that would be the primary point in the agenda. In

consideration of the time, I think I'm going to turn this back to Micky for opening up the lines and for closing the session. Micky, I'll turn it back to you.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Thanks, Walter and Jonah. That was excellent, and it shows just a lot of progress and a lot of progress on this call as well, so greatly appreciate it. Judy, I think we're ready to open it up.

Judy Sparrow – Office of the National Coordinator – Executive Director
Operator, can you check and see if anyone from the public wishes to make a comment?

Coordinator
We do not have any comments at this time.

Judy Sparrow – Office of the National Coordinator – Executive Director
Thank you, operator. Thank you, Micky and everybody.

Micky Tripathi – Massachusetts eHealth Collaborative – President & CEO
Great. Thank you, everybody.

Public Comment Received During the Meeting

1. Where are the IT guys on this team? (I'll be happy to join!)

2. With the CCR and CCD Basically, it can be translated to nearly any system and be used by all kinds of devices. (via XML schema, etc.) right?

3. If Patient consent allows/requires individual clinician consent within an entity, how is this addressed?

4. How do you define Entity - For example is Entity Inova Health Sytems, Inova Faifax, Inova Urgent care centers, Inova Heart and Vascular Institute?

5. I LIKE IT!

6. Kudos to Walter! Does he have the UML diagrams for these use Cases? (I'd love to see them) 4light@gmail.com

7. Best for Policy makers to refer to the attributes of security... or 'using standards based security protocols that provide appropriate security'

8. PKI can be as low-technology as manually exchanging certificates that are self-signed.

9. PKI has many implied meanings. Some are worried about the worst case of administrative overhead that PKI could imply.